IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-10. Canceled.

11. (Currently Amended) A method of producing a I-III-VI_y compound in thin film form by electrochemistry, in which y is close to 2, ~~and~~ VI is an element comprising selenium, I is copper, silver or gold and III is boron, aluminum, gallium, indium or thallium, comprising:

a) providing an electrolysis bath comprising active selenium, in oxidation state IV (Se(IV)), and at least two electrodes;

b) applying a potential difference between the two electrodes to promote migration of the active selenium toward one of the electrodes and initiate formation of at least one thin film of the I-III-VI_y compound; and,

c) regenerating the selenium in active form (Se(IV)) in the electrolysis bath.

12. (Previously Presented) The method of Claim 11, wherein, at step c), an oxidizing agent for selenium is introduced into the electrolysis bath in order to regenerate the selenium in active form.

13. (Previously Presented) The method of Claim 12, wherein when the electrolysis bath contains selenium in colloid form (Se(0)) at step b), the oxidizing agent regenerates the selenium in the colloid form to selenium in the active form.

14. (Previously Presented) The method of Claim 12, wherein the oxidizing agent is hydrogen peroxide (H_2O_2).

15. (Previously Presented) The method of Claim 14, wherein the hydrogen peroxide is added to the electrolysis bath in a concentration at least approximately five times an initial selenium concentration in the electrolysis bath.

16. (Previously Presented) The method of Claim 11, wherein, at step c), selenium is added to the electrolysis bath in order to form an excess of active selenium in the electrolysis bath.

17. (Previously Presented) The method of Claim 11, wherein, when one tenth of a concentration of selenium at step a) is consumed by producing the thin film at step b), approximately twice the consumed concentration of selenium is added to the bath at step c).

18. (Previously Presented) The method of Claim 11, wherein, after step c), at least one new thin film of the I-III-VI_y compound is formed.

19. (Previously Presented) The method of Claim 11, wherein, the at least one thin film of the I-III-VI_y compound is $CuInSe_y$ and the bath further comprises, at step a), for one unit of concentration of copper in the electrolysis bath, about 1.7 units of concentration of the active selenium.

20. (Previously Presented) The method of Claim 11, further comprising step d), regenerating the electrolysis bath by introducing oxides and/or hydroxides of elements I and III wherein, the oxide is In_2O_3 and the hydroxide is $In(OH)_3$, or wherein the oxide is CuO and the hydroxide is $Cu(OH)_2$.